

WE CLAIM:

1. A surgical drain comprising:
 - an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including a first and a second surface on an outer side of the elongated conduit;
 - a first sensing system configured to sense a physiological property of tissue proximate to the first surface; and
 - a first inflatable compartment associated with the elongated conduit.
2. The surgical drain of claim 1, wherein the first inflatable compartment is proximate to the second surface.
3. The surgical drain of claim 1, wherein the first inflatable compartment is within the elongated conduit.
4. The surgical drain of claim 1, wherein the first sensing system and first inflatable compartment are positioned at about the same position along a drain length.
5. The surgical drain of claim 1, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.
6. The surgical drain of claim 1, comprising a second sensing system configured to sense a different physiological property than the first sensing system.
7. The surgical drain of claim 1, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.
8. The surgical drain of claim 1, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.
9. The surgical drain of claim 1, further comprising a pump in communication with an interior portion of the inflatable compartment.

10. The surgical drain of claim 1, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

11. The surgical drain of claim 1, wherein the surgical drain further includes an anchor configured to stabilize the position of the surgical drain relative to tissue in the body cavity.

12. The surgical drain of claim 1, wherein the surgical drain further includes a projection extending from the outer side, wherein the projection is configured for insertion into tissue in the body cavity.

13. The surgical drain of claim 1, wherein the surgical drain further includes a first loop extending from the outer side.

14. The surgical drain of claim 1, wherein the surgical drain further includes adhesive on at least a portion of the outer side.

15. The surgical drain of claim 1, wherein the surgical drain further includes a flap extending from the outer side.

16. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including a first surface located on an outer side of the elongated conduit and a second surface located on an outer side of the elongated conduit;

a projection extending from the first surface; and

a first sensing system configured to sense a physiological property of the tissue proximate the first surface.

17. The surgical drain of claim 16, wherein the surgical drain further comprises an inflatable compartment proximate to the second surface.

18. The surgical drain of claim 1, wherein the surgical drain comprises transparent material.

19. The surgical drain of claim 17, wherein the first inflatable compartment is proximate to the second surface.

20. The surgical drain of claim 17, wherein the first inflatable compartment is within the elongated conduit.

21. The surgical drain of claim 17, wherein the first sensing system and first inflatable compartment are positioned at about the same position along a drain length.

22. The surgical drain of claim 16, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

23. The surgical drain of claim 16, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

24. The surgical drain of claim 16, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

25. The surgical drain of claim 16, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

26. The surgical drain of claim 17, further comprising a pump in communication with an interior portion of the inflatable compartment.

27. The surgical drain of claim 17, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

28. The surgical drain of claim 16, wherein the surgical drain further includes an anchor configured to stabilize the position of the surgical drain relative to tissue in the body cavity.

29. The surgical drain of claim 16, wherein the surgical drain further includes a projection extending from the outer side, wherein the projection is configured for insertion into tissue in the body cavity.

30. The surgical drain of claim 16, wherein the surgical drain further includes a first loop extending from the outer side.

31. The surgical drain of claim 16, wherein the surgical drain further includes adhesive on at least a portion of the outer side.

32. The surgical drain of claim 16, wherein the surgical drain further includes a flap extending from the outer side.

33. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity; and

at least one anchor configured to stabilize the elongated conduit with respect to a tissue in the body cavity.

34. The surgical drain of claim 33, further comprising a first sensing system configured to sense a physiological property of a tissue proximate to the elongated conduit.

35. The surgical drain of claim 33, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

36. The surgical drain of claim 33, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

37. The surgical drain of claim 33, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

38. The surgical drain of claim 33, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

39. The surgical drain of claim 33, wherein the surgical drain further comprises an inflatable compartment.

40. The surgical drain of claim 33, further comprising a pump in communication with an interior portion of the inflatable compartment.

41. The surgical drain of claim 33, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

42. The surgical drain of claim 33, wherein surgical drain comprises transparent material.

43. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including an outer side and a projection extending from the drain outer surface configured for insertion into tissue in the body cavity.

44. The surgical drain of claim 43, further comprising a first sensing system configured to sense a physiological property of a tissue proximate to the elongated conduit.

45. The surgical drain of claim 43, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

46. The surgical drain of claim 43, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

47. The surgical drain of claim 43, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

48. The surgical drain of claim 43, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

49. The surgical drain of claim 43, wherein the surgical drain further comprises an inflatable compartment.

50. The surgical drain of claim 43, further comprising a pump in communication with an interior portion of the inflatable compartment.

51. The surgical drain of claim 43, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

52. The surgical drain of claim 43, wherein surgical drain comprises transparent material.

53. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including an outer side and a first loop extending from the drain outer side.

54. The surgical drain of claim 53, further comprising a first sensing system configured to sense a physiological property of a tissue proximate to the elongated conduit.

55. The surgical drain of claim 53, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

56. The surgical drain of claim 53, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

57. The surgical drain of claim 53, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

58. The surgical drain of claim 53, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

59. The surgical drain of claim 53, wherein the surgical drain further comprises an inflatable compartment.

60. The surgical drain of claim 53, further comprising a pump in communication with an interior portion of the inflatable compartment.

61. The surgical drain of claim 53, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

62. The surgical drain of claim 53, wherein surgical drain comprises transparent material.

63. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including an outer side and adhesive on at least a portion of the outer side.

64. The surgical drain of claim 63, wherein the adhesive is a pressure sensitive adhesive or fibrin glue.

65. The surgical drain of claim 63, wherein at least the adhesive comprises transparent material.

66. The surgical drain of claim 63, further comprising a first sensing system configured to sense a physiological property of a tissue proximate to the elongated conduit.

67. The surgical drain of claim 63, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

68. The surgical drain of claim 63, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

69. The surgical drain of claim 63, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

70. The surgical drain of claim 63, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

71. The surgical drain of claim 63, wherein the surgical drain further comprises an inflatable compartment.

72. The surgical drain of claim 63, further comprising a pump in communication with an interior portion of the inflatable compartment.

73. The surgical drain of claim 63, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

74. The surgical drain of claim 63, wherein surgical drain comprises transparent material.

75. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including an outer side and a flap extending from the outer side.

76. The surgical drain of claim 75, wherein the flap further has a first edge, wherein the first edge has a thickness greater the thickness of the flap.

77. The surgical drain of claim 75 having a sensing system for detecting a physiological property of tissue proximate to the flap.

78. The surgical drain of claim 75, further having adhesive on at least a portion of the outer side or flap.

79. The surgical drain of claim 75, further comprising a first sensing system configured to sense a physiological property of a tissue proximate to the elongated conduit.

80. The surgical drain of claim 75, wherein the physiological property is selected from the group comprising: oxygenation, perfusion, temperature, pH, NADH levels, biochemical composition, drug concentration, turgidity or pressure.

81. The surgical drain of claim 75, further including a display configured to depict data corresponding to the physiological property sensed by the first sensing system.

82. The surgical drain of claim 75, comprising a second sensing system configured to sense a different physiological property than the first sensing system.

83. The surgical drain of claim 75, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

84. The surgical drain of claim 75, wherein the surgical drain further comprises an inflatable compartment.

85. The surgical drain of claim 75, further comprising a pump in communication with an interior portion of the inflatable compartment.

86. The surgical drain of claim 75, further comprising a pressure monitor in communication with the interior portion of the inflatable chamber.

87. The surgical drain of claim 75, wherein surgical drain comprises transparent material.

88. A surgical drain comprising:

an elongated conduit configured to be implanted in and to drain fluid from a body cavity, wherein at least a portion of the elongated conduit comprises an optically transparent material; and

a first sensing system configured to sense a physiological property of any substance proximate to the elongated conduit.

89. The surgical drain of claim 88, wherein the physiological property is selected from the group comprising: temperature, oxygenation, perfusion, pH, NADH levels, biochemical composition, drug concentrations, turgidity or pressure.

90. The surgical drain of claim 88, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.

91. The surgical drain of claim 88, wherein at least portions of the first and second sensing systems are embedded within the conduit behind material that is optically transparent.

92. The surgical drain of claim 88, further including a display configured to depict data corresponding to the physiological property sensed by the first or second sensing systems.

93. The surgical drain of claim 88, wherein the first sensing system includes a component that is affixed to the conduit.

94. The surgical drain of claim 88, wherein the component is embedded in the conduit.

95. The surgical drain of claim 88, wherein the component includes a sensor.

96. The surgical drain of claim 88, wherein the component includes an optical fiber.

97. The surgical drain of claim 88, wherein the surgical drain further includes an anchor configured to stabilize the position of the surgical drain relative to tissue in the body cavity.

98. The surgical drain of claim 88, wherein the surgical drain further includes a projection extending from the outer side, wherein the projection is configured for insertion into tissue in the body cavity.

99. The surgical drain of claim 88, wherein the surgical drain further includes a first loop extending from the outer side.

100. The surgical drain of claim 88, wherein the surgical drain further includes adhesive on at least a portion of the outer side.

101. The surgical drain of claim 88, wherein the surgical drain further includes a flap extending from the outer side.

102. The surgical drain of claim 88, further comprising a first inflatable compartment associated with the elongated circuit.